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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/590,594   | 06/09/2000  | JAMES J. KOSMACH     | PF02072NA           | 1575             |
| 20280  | 7590        | 12/28/2004           | EXAMINER            |                  |
| MOTOROLA INC<br>600 NORTH US HIGHWAY 45<br>ROOM AS437<br>LIBERTYVILLE, IL 60048-5343 |             |                      | CHANG, EDITH M      |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2637                |                  |

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/590,594

Applicant(s)

KOSMACH ET AL.

Examiner

Edith M Chang

Art Unit

2637

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 24 September 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 1-25

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
10. ☐ Other: \_\_\_\_\_

1. Applicants argue that neither Yamao et al nor Iwamura disclose a first set of bit metrics based on the energy values in response to the receiver being assigned to the first phase and a second set of bit metrics based on the energy values in response to the receiver being assigned to the second phase regarding independent claims 1, 13 and 25.

Yamao et al. teaches in the third embodiment (FIG.19), decoders (36-1 and 36-2 FIG.19) generating a first set of sequence from e1 and a second set of sequence from e2 (the outputs of envelope detector 33-1 to 33-4). The first set of sequence from e1 is based on the energy values (such as e11, e13, e15 and e17 comprised in f-1 shown in FIG.20) in response to the receiver assigned to the first phase (d-1 of e-1); and the second sequence from e2 comprising f-6 which is based on the energy values (e22, e24, e26 and e28 comprised in f-6 shown in FIG.20) the receiver assigned to the second phase (d-2 of e-2), wherein each symbol from the demodulator 34 containing data associated with a first phase and a second phase to which the receiver being assigned.

As well, Yamao teaches in the second embodiment, FIG.13, a detector generating the first energy values based on the first phase of bits b1i (i=1 to 4) in h1 and a second energy values based on the second phase of bits b2i (i=1 to 4) in h2 as shown in FIG.14; and a first set of sequence from the M-ary detector 4-1 based on the first phase in h1 (b11, b12, b13 and b14 refer to FIG.12 of FSK encoding) and a second set of sequence from the detector M-ary 4-2 based on the second phase in h2 (b21, b22, b23, and b24). In FIG.14, the output of the decoder 4-1 is a bit metrics wherein the (a1, a2) is the bit metrics.

Therefore, Yamao teaches the limitations of a first set of sequence based on the energy values in response to the receiver being assigned to the first phase and a second set of sequence based on the energy values in response to the receiver being assigned to the second phase. And it is well known in the art that the first and second sets of sequence from the energy values of the envelope detector (as shown in FIG.14.) can be represented by bit metrics in math form.

Iwamura teaches decoder/means with bit metrics (82 FIG.8 the decoder, FIG. 12 composing the metrics, column 1 lines 39-62, column 10 lines 30-40 the GMD decoding provides the bit metrics) to identify the least reliable bits (Abstract lines 1-3) and the decoder receives FSK signals with two phases assigned to the receiver defined as by Yamoto (FIG.7), in turn being able to correct the errors. As Yamao's receiver suggesting/providing a decoder reducing the errors of dropping received power (column 7 lines 15-25) and being capable of realizing high quality signal (column 3 lines 15-20), and Iwamura teaches the decoder with bit metrics being able to correct the errors of the received power. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the decoding algorithm taught by Iwamura (Abstract lines 1-5, the decoder 71 of FIG.7 & FIG.3 the decoding structure) in Yamao et al.'s FSK decoder wherein the sets of sequence based on the outputs/energy values of the envelope detectors are the bit metrics based on energy values taught by Iwamura to reduce errors for the purpose of having an efficient decoder and its method with less amount of calculation and less hardware (Abstract lines 1-5 & column 5 lines 15-25).

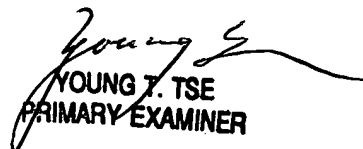
Since Yamao has the suggesting/providing of the decoder with the sets of sequence based on the energy values of the outputs of the envelope detectors; and the modification/combination is implementation in the sets of sequences/bit metrics, hence the modification/combination is proper and has a reasonable expectation of success. Therefore the Yamao's decoder with the modification/combination taught by Iwamura teaches the invention cited in the claims.

2. Applicants argue that the action does not provide any foundation in the reference of the claimed feature.

Both FIG.19 and FIG.13 are referred in the office action as the foundation of the claimed feature as the response of the argument 1.

3. Applicants argue that the office action alleges at Fig. 13 and col. 8, lines 28-60 wherein the four band-pass filters BPF1 to BPF4 having central frequencies f1, f2, f3, and f4 respectively, four detectors outputs are obtained and then 2 bits corresponding to a frequency for which at largest detector output is obtained are outputted as h1 and h2. There is nothing present in the quoted portion of the cited section, of doing anything in response to a receiver being assigned to a phase.

In light of the specification lines 19-22 page 1 and lines 3-5 page 2 and the disclosure of FIG.2 of the current application, the Fig.13 and col. 8, lines 28-30 of the reference teaches the receiver of the invention. In Fig.13, the table of g1, g2/frequency/h1, h2 is shown the sequence of outputs (the bit metrics) of the M-ary (4-ary) decoder based on the energy values in response to the receiver being assigned to a phase such as the (g1, g2) being (0,0)/(0,1) as cited in the claims.

  
YOUNG T. TSE  
PRIMARY EXAMINER